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National Occupational Analysis

2009 | Automotive Painter

Human Resources and Skills Development Canada
Ressources humaines et Développement des compétences Canada

Canada

Occupational Analyses Series

Automotive Painter

2009

Trades and Apprenticeship Division	Division des métiers et de l'apprentissage
Workplace Partnerships Directorate	Direction des partenariats en milieu de travail
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The Canadian Council of Directors of Apprenticeship (CCDA) recognizes this National Occupational Analysis as the national standard for the occupation of Automotive Painter.

Background

The first National Conference on Apprenticeship in Trades and Industries, held in Ottawa in 1952, recommended that the federal government be requested to cooperate with provincial and territorial apprenticeship committees and officials in preparing analyses of a number of skilled occupations. To this end, Human Resources and Skills Development Canada sponsors a program, under the guidance of the CCDA, to develop a series of National Occupational Analyses (NOA).

The NOAs have the following objectives:

- to describe and group the tasks performed by skilled workers;
- to identify which tasks are performed in every province and territory;
- to develop instruments for use in the preparation of Interprovincial Red Seal Examinations and curricula for training leading to the certification of skilled workers;
- to facilitate the mobility of apprentices and skilled workers in Canada; and,
- to supply employers, employees, associations, industries, training institutions and governments with analyses of occupations.

ACKNOWLEDGEMENTS

The Canadian Council of Directors of Apprenticeship (CCDA) and Human Resources and Skills Development Canada (HRSDC) wish to express sincere appreciation for the contribution of the many tradespersons, industrial establishments, professional associations, labour organizations, provincial and territorial government departments and agencies, and all others who contributed to this publication.

This analysis was prepared by the Workplace Partnerships Directorate of HRSDC. The coordinating, facilitating and processing of this analysis were undertaken by employees of the National Occupational Analysis (NOA) development team of the Trades and Apprenticeship Division.

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LIST OF PUBLISHED
NATIONAL OCCUPATIONAL ANALYSES
(Red Seal Trades)

TITLE	NOC* Code
Agricultural Equipment Technician (2007)	7312
Appliance Service Technician (2005)	7332
Automotive Painter (2009)	7322
Automotive Service Technician (2005)	7321
Baker (2006)	6252
Boilermaker (2008)	7262
Bricklayer (2007)	7281
Cabinetmaker (2007)	7272
Carpenter (2005)	7271
Concrete Finisher (2006)	7282
Construction Electrician (2008)	7241
Construction Craft Worker (2009)	7611
Cook (2008)	6242
Electrical Rewind Mechanic (1999)	7333
Electronics Technician – Consumer Products (1997)	2242
Floorcovering Installer (2005)	7295
Glazier (2008)	7292
Hairstylist (2005)	6271
Heavy Duty Equipment Technician (2004)	7312
Industrial Electrician (2008)	7242
Industrial Mechanic (Millwright) (2007)	7311
Instrumentation and Control Technician (2007)	2243
Insulator (Heat and Frost) (2007)	7293
Ironworker (Generalist) (2006)	7264
Ironworker (Reinforcing) (2006)	7264
Ironworker (Structural/Ornamental) (2006)	7264
Lather (Interior Systems Mechanic) (2007)	7284
Machinist (2005)	7231
Metal Fabricator (Fitter) (2008)	7263

* National Occupational Classification

TITLE	NOC* Code
Mobile Crane Operator (2006)	7371
Motorcycle Mechanic (2006)	7334
Motor Vehicle Body Repairer (Metal and Paint) (2005)	7322
Oil Burner Mechanic (2006)	7331
Painter and Decorator (2007)	7294
Partsperson (2005)	1472
Plumber (2008)	7251
Powerline Technician (2004)	7244
Recreation Vehicle Service Technician (2006)	7383
Refrigeration and Air Conditioning Mechanic (2004)	7313
Rig Technician (2008)	8232
Roofer (2006)	7291
Sheet Metal Worker (2006)	7261
Sprinkler System Installer (2003)	7252
Steamfitter — Pipefitter (2007)	7252
Tilesetter (2004)	7283
Tool and Die Maker (2005)	7232
Transport Trailer Technician (2008)	7321
Truck and Transport Mechanic (2007)	7321
Welder (2004)	7265

Requests for printed copies of National Occupational Analyses may be forwarded to:

Trades and Apprenticeship Division
Workplace Partnership Directorate
Human Resources and Skills Development Canada
140 Promenade du Portage, Phase IV, 5th Floor
Gatineau, Quebec K1A 0J9

These publications can be ordered or downloaded online at: www.red-seal.ca. Links to Essential Skills Profiles for some of these trades are also available on this website.

To facilitate understanding of the occupation, the work performed by tradespersons is divided into the following categories:

Blocks	the largest division within the analysis that is comprised of a distinct set of trade activities
Tasks	distinct actions that describe the activities within a block
Sub-Tasks	distinct actions that describe the activities within a task
Supporting Knowledge and Abilities	skills and knowledge that an individual must have to perform a sub-task

The analysis also provides the following information:

Trends	changes identified that impact or will impact the trade including work practices, technological advances, and new materials and equipment
Context	information to clarify the intent and meaning of tasks
Related Components	a list of products, items, materials and other elements relevant to the block
Tools and Equipment	categories of tools and equipment used to perform all tasks in the block; these tools and equipment are listed in Appendix A

The appendices located at the end of the analysis are described as follows:

Appendix A — Tools and Equipment	a non-exhaustive list of tools and equipment used in this trade
Appendix B — Glossary	definitions or explanations of selected technical terms used in the analysis
Appendix C — Acronyms	a list of acronyms used in the analysis with their full name
Appendix D — Block and Task Weighting	the block and task percentages submitted by each jurisdiction, and the national averages of these percentages; these national averages determine the number of questions for each block and task in the Interprovincial exam
Appendix E — Pie Chart	a graph which depicts the national percentages of exam questions assigned to blocks
Appendix F — Task Profile Chart	a chart which outlines graphically the blocks, tasks and sub-tasks of this analysis

Development of Analysis

A draft analysis is developed by a committee of industry experts in the field led by a team of facilitators from Human Resources and Skills Development Canada. This draft analysis breaks down all the tasks performed in the occupation and describes the knowledge and abilities required for a tradesperson to demonstrate competence in the trade.

Draft Review

The National Occupational Analysis (NOA) development team then forwards a copy of the analysis and its translation to provincial and territorial authorities for a review of its content and structure. Their recommendations are assessed and incorporated into the analysis.

Validation and Weighting

The analysis is sent to all provinces and territories for validation and weighting. Participating jurisdictions consult with industry to validate and weight the document, examining the blocks, tasks and sub-tasks of the analysis as follows:

BLOCKS	Each jurisdiction assigns a percentage of questions to each block for an examination that would cover the entire trade.
TASKS	Each jurisdiction assigns a percentage of exam questions to each task within a block.
SUB-TASKS	Each jurisdiction indicates, with a YES or NO, whether or not each sub-task is performed by skilled workers within the occupation in its jurisdiction.

The results of this exercise are submitted to the NOA development team who then analyzes the data and incorporates it into the document. The NOA provides the individual jurisdictional validation results as well as the national averages of all responses. The national averages for block and task weighting guide the Interprovincial Red Seal Examination plan for the trade.

This method for the validation of the NOA also identifies common core sub-tasks across Canada for the occupation. If at least 70% of the responding jurisdictions perform a sub-task, it shall be considered common core. Interprovincial Red Seal Examinations are based on the common core sub-tasks identified through this validation process.

Definitions for Validation and Weighting

YES	sub-task performed by qualified workers in the occupation in a specific jurisdiction
NO	sub-task not performed by qualified workers in the occupation in a specific jurisdiction
NV	analysis Not Validated by a province/territory
ND	trade Not Designated in a province/territory
NOT COMMON CORE (NCC)	sub-task, task or block performed by less than 70% of responding jurisdictions; these will not be tested by the Interprovincial Red Seal Examination for the trade
National Average %	average percentage of questions assigned to each block and task in Interprovincial Red Seal Examination for the trade

Provincial/Territorial Abbreviations

NL	Newfoundland and Labrador
NS	Nova Scotia
PE	Prince Edward Island
NB	New Brunswick
QC	Quebec
ON	Ontario
MB	Manitoba
SK	Saskatchewan
AB	Alberta
BC	British Columbia
NT	Northwest Territories
YT	Yukon Territory
NU	Nunavut

ANALYSIS

Safe working procedures and conditions, accident prevention, and the preservation of health are of primary importance to industry in Canada. These responsibilities are shared and require the joint efforts of government, employers and employees. It is imperative that all parties become aware of circumstances that may lead to injury or harm. Safe learning experiences and work environments can be created by controlling the variables and behaviours that may contribute to accidents or injury.

It is generally recognized that safety-conscious attitudes and work practices contribute to a healthy, safe and accident-free work environment.

It is imperative to apply and be familiar with the Occupational Health and Safety (OH&S) Acts and Workplace Hazardous Materials Information System (WHMIS) Regulations. As well, it is essential to determine workplace hazards and take measures to protect oneself, co-workers, the public and the environment.

Safety education is an integral part of training in all jurisdictions. As safety is an imperative part of all trades, it is assumed and therefore it is not included as a qualifier of any activities. However, the technical safety tasks and sub-tasks specific to the trade are included in this analysis.

SCOPE OF THE AUTOMOTIVE PAINTER TRADE

"Automotive Painter" is this trade's official Red Seal occupational title approved by the Canadian Council of Directors of Apprenticeship (CCDA). This analysis covers tasks performed by an automotive painter whose occupational title has been identified by some provinces and territories of Canada under the following names:

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
Auto Body Technician - Auto Body Refinisher									✓				
Automotive Painter	✓	✓	✓	✓		✓						✓	
Automotive Refinishing Technician										✓			
Motor Vehicle Body Refinisher Sub-Trade								✓					
Motor Vehicle Body Repairer (Painter)							✓						
Motor Vehicle Body Repairer - Auto Body Refinisher											✓		

Automotive painters work on the surfaces of motor vehicles, primarily in restoring vehicles to their original condition following damage and subsequent auto body repair. Generally, automotive painting begins when body work has been completed. Some of the duties that an automotive painter completes include: removing exterior trim and hardware; removing layers of sub-coating; matching colours and mixing paints; preparing metal surfaces for painting by spot filling, sanding, and masking; applying primers, primer surfacers, enamels, clearcoats and urethanes; cleaning and polishing painted surfaces including removing and replacing decals; and applying anti-corrosive treatments.

Automotive painters use hand and power tools in their work. Commonly used tools are sanders and spray guns. Computers and related software may be used in some workplaces for computerized paint colour reading, generating paint formulas and tinting. In some workplaces, decals and graphics are produced by computerized equipment.

Journeypeople in this trade usually work indoors and can expect a work environment that includes paint fumes, dust and noise. Health and safety are important issues for automotive painters, as they are exposed to chemical (e.g. paints, compounds, solvents) and physical (e.g. spray guns, sanders) hazards. Ongoing safety training and a good knowledge of government safety standards and regulations are important in providing a safer working environment.

Many automotive painters work in close contact with motor vehicle body repairers who tend to work in auto body shops or dealerships. Automotive painting duties may overlap with motor vehicle body repairers' duties, particularly in small shops. In larger places of employment, automotive painters likely work as specialists, after body repairs have been completed. While they may work as part of the repair team, automotive painters tend to work independently.

Key attributes for people entering this trade include: mechanical aptitude; manual dexterity; good colour vision; the ability to do precise work that requires attention to detail; and an eye for creativity. Good physical condition and agility are important because the work often requires considerable standing, bending, crouching, kneeling and reaching.

Being an automotive painter is very self-rewarding. With experience, journeypersons have a number of career options, including supervisory or teaching/training in the field.

The use of environmentally friendly materials is becoming more common in the trade. Regulations controlling their use and disposal are becoming more strict.

New painting equipment such as High Volume Low Pressure (HVLP) sprayers and higher calibre sprayers that apply paints more efficiently has decreased paint waste. The composition of paints has been one of the bigger changes that the industry has seen recently. The introduction of high-solid contents and water-borne paints has decreased the level of solvent fumes, as well as the use and disposal of solvents. Solvent recycling has in many cases dramatically decreased solvent waste and costs associated with this industry.

Other new technologies involve the use of Ultraviolet (UV) curing technology, direct-to-metal primer surfacers and cycle-time reduction clears.

Computer software is playing a major role in colour formula retrieval and assists in colour matching. While these high technology tools are helpful, they are only supplemental to the trained eye of an experienced professional automotive painter who is attuned to fine detail.

Because of the high capital expenditure required to set up a stand-alone paint shop, automotive painters tend not to be self-employed.

BLOCK A — OCCUPATIONAL SKILLS

Trends — Electronic access to information such as manuals and updates becoming more common. Increased use of digital spray guns and high transfer efficiency spray equipment such as HVLP (High Volume Low Pressure), LVLP (Low Volume Low Pressure) and RP (Reduced Pressure) resulting in less overspray. Increased use of fresh air supplied respirators and power tools with dust extraction.

Context — Occupational skills are repetitive general skills for many tasks performed by an automotive painter.

Task 1 — Uses documentation.

Related Components (include, but not limited to) — Technical manuals and bulletins, safety and environmental regulations, repair estimates, WHMIS documents, work orders.

Tools and Equipment — Computer, software.

Sub-task 1.01 — Interprets vehicle information.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

1.01.01	knowledge of industry terminology
1.01.02	knowledge of vehicle manufacturers' makes and models
1.01.03	knowledge of vehicle information such as year of vehicle, VIN (vehicle identification number) and production date
1.01.04	ability to locate paint codes
1.01.05	ability to interpret paint codes

Sub-task
1.02 **Interprets technical manuals and bulletins.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

1.02.01	knowledge of types of technical manuals and bulletins
1.02.02	knowledge of location of manuals and bulletins in shop
1.02.03	knowledge of industry terminology
1.02.04	ability to access manuals and bulletins in electronic and printed formats
1.02.05	ability to interpret paint codes
1.02.06	ability to interpret product information data sheets

Sub-task
1.03 **Interprets safety and environmental regulations.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

1.03.01	knowledge of WHMIS (Workplace Hazardous Materials Information System)
1.03.02	knowledge of jurisdictional regulations
1.03.03	knowledge of VOC (volatile organic compounds) and VOC tracking procedures
1.03.04	knowledge of types of paint such as water-borne and high-solids
1.03.05	knowledge of storage requirements before and after use
1.03.06	knowledge of restrictions on use and handling of hazardous waste
1.03.07	ability to locate MSDS (Material Safety Data Sheets)
1.03.08	ability to access and apply regulations in electronic and printed formats

Sub-task
1.04 **Contributes to development of repair estimate.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	no	no	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

1.04.01	knowledge of repair techniques such as blending, butt matching and spot repair
1.04.02	ability to identify extent of refinishing required
1.04.03	ability to identify types of paint finish such as tri-colour, single stage and two-stage
1.04.04	ability to communicate with estimator

Sub-task
1.05 **Interprets work orders.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

1.05.01	knowledge of work order formats
1.05.02	knowledge of industry terminology
1.05.03	knowledge of paint refinish procedures
1.05.04	knowledge of material required
1.05.05	ability to follow work order

Task 2 **Uses tools and equipment.**

Related Components (include, but not limited to) Technical manuals.

Tools and Equipment See Appendix A.

Sub-task 2.01 **Uses hand tools.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

2.01.01	knowledge of types of hand tools such as sanding, cutting, scraping, and trim and accessory removal tools
2.01.02	knowledge of limitations of use
2.01.03	ability to maintain tools
2.01.04	ability to store tools
2.01.05	ability to recognize unsafe, worn, broken and defective tools

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Sub-task 2.02 **Uses power tools.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

2.02.01	knowledge of types of power tools such as pneumatic and electric
2.02.02	knowledge of operating procedures
2.02.03	knowledge of limitations of use
2.02.04	ability to maintain tools

2.02.05 ability to store tools

2.02.06 ability to recognize unsafe, worn, broken and defective tools

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Sub-task
2.03 **Uses computers.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

2.03.01 knowledge of computer hardware and software applications such as spectrophotometer, paint mixing, job tracking, inventory and data retrieval

2.03.02 ability to retrieve information such as colour formula, product information, MSDS and VOC information

2.03.03 ability to use applicable industry software

Sub-task
2.04 **Uses measuring equipment.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

2.04.01 knowledge of types of measuring equipment such as scales, proportional sticks and containers

2.04.02 knowledge of types of scales such as digital and computerized

2.04.03 knowledge of viscosity

2.04.04 ability to interpret technical manuals

2.04.05 ability to operate computers and related software

2.04.06 ability to perform basic calculations

2.04.07 ability to set up measuring system

2.04.08 ability to maintain measuring system

Sub-task
2.05 **Uses personal protective equipment (PPE).**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

2.05.01	knowledge of types of PPE such as hearing, eye, skin and respiratory protection
2.05.02	knowledge of PPE operation
2.05.03	knowledge of workplace safety and health regulations
2.05.04	ability to inspect and maintain PPE
2.05.05	ability to store PPE
2.05.06	ability to recognize worksite hazards

Task 3 **Organizes work.**

Related Components (include, but not limited to) Vehicle, WHMIS documents, abrasives, solvents, cleaners, masking materials, paints.

Tools and Equipment Safety and first aid equipment, light source, communication equipment, computer.

Sub-task
3.01 **Organizes material.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

3.01.01	knowledge of types of materials such as abrasives, cleaners and paints
3.01.02	knowledge of material ordering procedures
3.01.03	ability to determine material required

3.01.04	ability to store and label material
3.01.05	ability to dispose of waste material

Sub-task
3.02 **Communicates with others.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

3.02.01	knowledge of types of communication methods such as oral and written
3.02.02	ability to use conflict resolution techniques
3.02.03	ability to explain technical information in layperson's terms
3.02.04	ability to communicate with other related professionals such as tradespeople and appraisers
3.02.05	ability to mentor apprentices
3.02.06	ability to operate communication equipment such as cellular phones, two-way radios and computers

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Sub-task
3.03 **Maintains safe work environment.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

3.03.01	knowledge of locations of WHMIS and MSDS
3.03.02	knowledge of PPE
3.03.03	knowledge of workers' rights and responsibilities
3.03.04	knowledge of location of safety equipment such as eye wash station, fire extinguishers, spill kits and first aid kit
3.03.05	knowledge of emergency procedures
3.03.06	knowledge of disposal and recycling procedures in accordance with government regulations
3.03.07	knowledge of basic first aid
3.03.08	ability to recognize fire and explosive hazards

3.03.09	ability to recognize personal injury hazards
3.03.10	ability to identify potential hazards
3.03.11	ability to operate ventilation systems
3.03.12	ability to maintain and use fire suppression equipment

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Sub-task

3.04 **Performs inspections.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

3.04.01	ability to verify tasks listed in repair estimate
3.04.02	ability to perform sensory inspection at appropriate times of repair
3.04.03	ability to identify paint defects such as runs, dust nibs, colour matches and mottling

BLOCK B VEHICLE PREPARATION

Trends Increased use of plastics and aluminium affecting finish coat process and preparation. New processes include UV and infrared curing techniques. Products being introduced include low VOC products, finer grit paper, water-borne materials and faster-drying materials.

Context Automotive painters are required to have the knowledge and skills to apply various types of topcoat to a vehicle.

Task 4 Performs initial preparation.

Related Components (include, but not limited to) Trim, accessories, fasteners, cleaners, WHMIS documents.

Tools and Equipment Safety and first aid equipment, standard tool kit.

Sub-task 4.01 Cleans vehicle.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

4.01.01	knowledge of types of cleaners such as soap, water and degreaser
4.01.02	knowledge of cleaning techniques
4.01.03	knowledge of types of contaminants
4.01.04	ability to select appropriate cleaner for various substrates such as metals and plastics
4.01.05	ability to select appropriate cleaner to remove various contaminants
4.01.06	ability to dispose of cleaning materials

Sub-task
4.02 **Removes trim and accessories.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

4.02.01	knowledge of types of trim and accessories and their method of attachment
4.02.02	knowledge of types of fasteners
4.02.03	knowledge of effect of temperature on removal of components
4.02.04	knowledge of basic vehicle design
4.02.05	ability to select appropriate tools
4.02.06	ability to identify composition of trim and accessories such as plastic, glass and metal
4.02.07	ability to handle and store removed trim and accessories

Task 5 **Prepares surface.**

Related Components (include, but not limited to) Exterior vehicle surface and components, coating remover, masking materials, sandpaper, WHMIS documents.

Tools and Equipment Safety and first aid equipment, pneumatic sanders, grinder, media blasting equipment, air equipment, file, heat gun, masking cart, sanding blocks, chemical paint strippers.

Sub-task
5.01 **Repairs imperfections.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

5.01.01	knowledge of types of imperfections such as door dings, rock chips and scratches

5.01.02	knowledge of repair techniques such as feather edging, stripping and media blasting
5.01.03	ability to identify problems with existing finish
5.01.04	ability to identify stripping methods such as chemical and mechanical
5.01.05	ability to identify substrate such as metal, plastic and composite
5.01.06	ability to identify extent of repair

Sub-task
5.02 **Masks vehicle.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

5.02.01	knowledge of types of masking materials such as paper, tape, foam, plastic sheeting and spray mask
5.02.02	knowledge of masking procedure for water-borne paints
5.02.03	ability to select size of tape and masking materials best suited to the repair
5.02.04	ability to apply spray mask
5.02.05	ability to select and apply masking techniques such as edge, reverse, inners and back mask
5.02.06	ability to secure paper and tape due to excess air movement from water-borne drying process

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Sub-task
5.03 **Strips surface.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

5.03.01	knowledge of types of stripping methods such as chemical, mechanical and media blasting
5.03.02	knowledge of types of media blasting such as sand, soda and plastic beads
5.03.03	knowledge of PPE
5.03.04	ability to identify substrate

5.03.05	ability to prepare surrounding area prior to stripping
5.03.06	ability to select cleaning procedure for use after stripping
5.03.07	ability to handle, store and dispose of stripping material

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Sub-task 5.04 **Sands surface.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

5.04.01	knowledge of types of abrasives
5.04.02	knowledge of sanding techniques such as block, back and final sanding
5.04.03	knowledge of adhesion capability of materials to be applied
5.04.04	ability to select appropriate grit according to substrate, material being used and repair technique
5.04.05	ability to select and perform sanding methods such as wet, dry, machine and hand

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Task 6 **Applies repair materials.**

Related Components (include, but not limited to) Vehicle exterior surface, fillers, primers, primer surfacers, adhesion promoters, flex additives, sandpaper, sanding paste, chip guard materials, masking materials, WHMIS documents.

Tools and Equipment Safety and first aid equipment, schutz gun, sanding blocks, scratch pads, sponge blocks, dust extraction systems, pneumatic sanders, plastic spreaders.

Sub-task 6.01 **Applies fillers.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

6.01.01	knowledge of types of fillers such as polyester and glazing putties
6.01.02	knowledge of types of substrates such as plastic, composites and metals
6.01.03	knowledge of product application techniques
6.01.04	knowledge of product curing times
6.01.05	knowledge of product working time
6.01.06	knowledge of role of environmental conditions on working and curing times
6.01.07	knowledge of limitation of use of fillers
6.01.08	ability to select repair material for substrate
6.01.09	ability to prepare surface prior to application
6.01.10	ability to mix fillers as per manufacturers' specifications
6.01.11	ability to estimate quantity of filler

Sub-task

6.02 **Applies primer and primer surfacers.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

6.02.01	knowledge of types of primers such as etch and epoxy
6.02.02	knowledge of types of primer surfacers such as two part primer surfacers, tintable and UV cure primer
6.02.03	knowledge of application techniques such as spray gun, roll-on, spreadable and aerosol
6.02.04	knowledge of types of adhesion promoters
6.02.05	knowledge of limitations of primers and primer surfacers
6.02.06	knowledge of flash-off times, cure times, induction times and pot life
6.02.07	ability to select and mix appropriate primer and primer surfacer for substrate and topcoat
6.02.08	ability to use flex additives for flexible substrate
6.02.09	ability to handle, store and dispose of primer and primer surfacers

Sub-task

6.03 **Performs final sanding.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

6.03.01	knowledge of sandpaper grit
6.03.02	knowledge of guide coat usage
6.03.03	knowledge of uses of sanding paste
6.03.04	knowledge of sanding methods such as wet, dry, machine and hand
6.03.05	knowledge of sanding materials such as dry and wet sandpaper and scratch pads
6.03.06	ability to select grit for topcoat to be applied
6.03.07	ability to prepare area for blending

Sub-task

6.04 **Applies chip guard.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

6.04.01	knowledge of types of chip guard materials such as water-borne and acrylic
6.04.02	knowledge of uses of paintable and non-paintable chip guard
6.04.03	knowledge of appropriate drying timeframes for sanding
6.04.04	knowledge of limitations of use of chip guard
6.04.05	ability to use schutz gun
6.04.06	ability to prepare substrate
6.04.07	ability to match texture on existing vehicle
6.04.08	ability to protect surrounding area

BLOCK C — REFINISHING

Trends The relationship between global environment issues and consumer demand has been a catalyst for innovative VOC compliant product development. These technological advancements provide a safer, more efficient working environment.

Context Automotive painters are required to have the knowledge and skills to apply various types of topcoat to a vehicle.

Task 7 — Prepares equipment.

Related Components (include, but not limited to) Refinish products, lubricants, WHMIS documents.

Tools and Equipment Safety and first aid equipment, standard tool kit, refinishing equipment, regulators, manometer, thermometer, stands, hangers.

Sub-task 7.01 **Performs spray gun setup.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

7.01.01	knowledge of types of refinish products
7.01.02	knowledge of types of refinish equipment
7.01.03	knowledge of air pressure and air volume and their effects
7.01.04	knowledge of paint gun components
7.01.05	knowledge of pneumatic components such as regulators, air transformers and separators
7.01.06	knowledge of product viscosity

7.01.07	knowledge of lubricants
7.01.08	ability to select equipment for application
7.01.09	ability to perform setup procedures as per manufacturers' specifications
7.01.10	ability to troubleshoot equipment problems

Sub-task 7.02 **Prepares spray booth.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

7.02.01	knowledge of booth types and construction
7.02.02	knowledge of operating temperatures and their effect on topcoat quality
7.02.03	knowledge of air drying systems for water-borne paints
7.02.04	knowledge of effect of positive and negative booth pressures
7.02.05	ability to adjust air makeup unit
7.02.06	ability to ensure spray booth is clean and dust-free
7.02.07	ability to set up booth based on job requirements
7.02.08	ability to utilize booth space
7.02.09	ability to adjust air flow in spray booth

Task 8 **Prepares refinishing materials.**

Related Components (include, but not limited to) Vehicle, paint, solvents, activators, WHMIS documents.

Tools and Equipment Safety and first aid equipment, mixing scales, computers and product-specific software, microfiche reader, paint gun, mixing sticks, measuring sticks, mixing cups, paint strainers, spray out cards, colour corrective bulbs, variant cards, spectrophotometer, paint shakers.

Sub-task
8.01 **Mixes paint.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

8.01.01	knowledge of scale and ratios
8.01.02	knowledge of viscosity scales
8.01.03	knowledge of low and high strength colours
8.01.04	knowledge of safety procedures
8.01.05	ability to use paint mixing equipment such as agitators and scales
8.01.06	ability to select solvents, reducers and activators according to ambient conditions (humidity/temperature) and job size
8.01.07	ability to determine quantity of paint required for the job
8.01.08	ability to mix paint according to Original Equipment Manufacturer (OEM) paint code

Sub-task
8.02 **Performs colour matching.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

8.02.01	knowledge of colour theory such as chroma, hue and value
8.02.02	knowledge of metamerism (role of light in colour perception)
8.02.03	knowledge of face, pitch and flash of a colour
8.02.04	knowledge of role of air pressure, temperature and solvent selections on colour matching
8.02.05	knowledge of paint components such as pearls, mica and metal flakes
8.02.06	knowledge of multi coat technology
8.02.07	knowledge of paint code variances
8.02.08	knowledge of methods to obtain formulas
8.02.09	ability to use variant cards, spectrophotometer and technical support to obtain formulas

8.02.10	ability to mix colour with an intermix system
8.02.11	ability to perform test panels
8.02.12	ability to adjust paint to match vehicle colour
8.02.13	ability to use spray technique to alter the mixed colour
8.02.14	ability to set up and adjust refinishing spray equipment

Task 9 **Applies refinishing materials.**

Related Components (include, but not limited to) Vehicle, sealers, additives, refinishing materials, reducers, activators, accelerators, WHMIS documents.

Tools and Equipment Safety and first aid equipment, standard tool kit, refinishing equipment, water-borne equipment, air compressor, tack cloths, moisture trap, regulators, anti-static devices, thermometer, stands, step ladders, hangers.

Sub-task 9.01 **Applies sealers.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

9.01.01	knowledge of types of sealers such as tintable, non-tintable and plastic
9.01.02	knowledge of types of seam sealers such as brush-on, ribbon and sprayable
9.01.03	knowledge of flash-off times
9.01.04	knowledge of types of additives
9.01.05	knowledge of the role of sealers in the refinishing process
9.01.06	ability to select sealers according to compatibility with substrate materials
9.01.07	ability to spray sealer in an even and consistent pattern
9.01.08	ability to select and use PPE such as personal fresh air system, gloves and paint suits

Sub-task

9.02 **Applies topcoat materials.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

9.02.01	knowledge of types of topcoats
9.02.02	knowledge of types of additives and their applications
9.02.03	knowledge of spray gun techniques and setups
9.02.04	knowledge of types of substrates
9.02.05	knowledge of reducers, activators and accelerators and their application
9.02.06	knowledge of forced drying and forced curing
9.02.07	knowledge of drying times of materials for two-toning and denibbing
9.02.08	knowledge of contaminants
9.02.09	knowledge of blending techniques such as drop coat, fan coat and orientation coat
9.02.10	ability to diagnose and correct paint faults such as fish-eyes, dry spray, tiger stripes and mottling
9.02.11	ability to select and use PPE such as respirators, gloves and paint suits
9.02.12	ability to select and use cleaning materials such as tack cloths and low-static solvents
9.02.13	ability to pre-wash vehicle
9.02.14	ability to determine coverage of topcoat materials
9.02.15	ability to use computers and programs

Task 10 **Maintains refinishing equipment.**

Related Components (include, but not limited to) Spray booth filters, cleaning products, WHMIS documents.

Tools and Equipment Safety and first aid equipment, standard tool kit, refinishing equipment, cleaning brushes and equipment, pressure washers, automatic gun washing system, air compressor, blow gun, brooms, floor squeegees, solvent recyclers.

Sub-task 10.01 **Maintains spray booth.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

10.01.01	knowledge of spray booth maintenance procedures such as changing filters, changing lights and cleaning glass
10.01.02	knowledge of types of booth coatings
10.01.03	knowledge of spray booth design
10.01.04	knowledge of different lighting types
10.01.05	knowledge of PPE
10.01.06	ability to apply booth coatings
10.01.07	ability to follow and document regular booth maintenance schedule
10.01.08	ability to troubleshoot problems
10.01.09	ability to apply safe working practices
10.01.10	ability to adjust and maintain air diffuser

Sub-task 10.02 **Maintains spray equipment.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

10.02.01	knowledge of types of spray equipment such as pressure pot, and HVLP
10.02.02	knowledge of spray gun components such as air caps, packings, fluid needles and fluid tips
10.02.03	knowledge of cleaning products and equipment
10.02.04	knowledge of PPE
10.02.05	knowledge of spray equipment cleaning procedures
10.02.06	knowledge of contaminants such as silicone and their possible negative effect
10.02.07	knowledge of spray equipment storage procedures
10.02.08	ability to troubleshoot spray faults such as fluttering and inconsistent spray patterns
10.02.09	ability to apply safe working practices
10.02.10	ability to identify contaminants
10.02.11	ability to replace worn or damaged parts
10.02.12	ability to service spray gun
10.02.13	ability to maintain compressors, moisture traps and air makeup system
10.02.14	ability to use spray gun washer

BLOCK D — PRE-DELIVERY

Trends — Increased use of colour-coordinated trim, accessories and computer-cut graphics. Increasing customer expectations, especially vehicle cleanliness. Many of the pre-delivery tasks are performed by designated detailers who communicate with painters. More sophisticated polishing techniques and products.

Context — Automotive painters are required to have the knowledge and skills to prepare the vehicle for delivery.

Task 11 — Carries out quality assurance check.

Related Components (include, but not limited to) — Vehicle, WHMIS documents, sandpaper, polish, masking materials.

Tools and Equipment — Safety and first aid equipment, razor blade, razor blade holder, sanding block, polisher, run-nib files.

Sub-task 11.01 — **Removes surface imperfections.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

11.01.01	knowledge of surface imperfections such as runs, sags, dust nibs, dry spray and orange peel
11.01.02	knowledge of types of topcoat and their limitations of repair
11.01.03	knowledge of types and grits of polish
11.01.04	knowledge of process to remove imperfections
11.01.05	ability to identify imperfections

11.01.06	ability to select technique for removal
11.01.07	ability to remove overspray from vehicle
11.01.08	ability to determine cure times of finish prior to topcoat repair
11.01.09	ability to restore lustre of finish

Sub-task 11.02 **Removes masking materials.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

11.02.01	knowledge of types of masking materials
11.02.02	knowledge of application techniques
11.02.03	knowledge of removal techniques
11.02.04	knowledge of when to remove masking materials
11.02.05	knowledge of contaminants such as silicone and their possible negative effect
11.02.06	ability to remove masking materials without damaging refinished surface

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Task 12 **Performs detailing.**

Related Components (include, but not limited to) Exterior trim and accessories, decals, striping, interior components, cleaners, WHMIS documents.

Tools and Equipment Safety and first aid equipment, standard tool kit, detailing and cleaning equipment.

Sub-task 12.01 **Installs trim and accessories.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

12.01.01	knowledge of types of trim and accessories
12.01.02	knowledge of types of fasteners
12.01.03	knowledge of basic vehicle construction
12.01.04	ability to install trim in proper location and sequence
12.01.05	ability to use adhesives and two-sided tape
12.01.06	ability to clean trim and accessories prior to applications
12.01.07	ability to install components and accessories without damaging vehicle finish

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Sub-task 12.02 **Applies decals and striping.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

12.02.01	knowledge of types of decals and striping such as vinyl graphics and name plates
12.02.02	knowledge of installation methods
12.02.03	ability to clean surface prior to application
12.02.04	ability to use heating equipment
12.02.05	ability to use detergent, water and squeegee to install decals and vinyl graphics
12.02.06	ability to remove air bubbles
12.02.07	ability to install decals and striping in proper location without damaging refinished surface, decals and striping

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Sub-task 12.03 **Applies anti-corrosive material.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	no	yes	yes	no	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

12.03.01	knowledge of types of anti-corrosive materials such as undercoating and rustproofing
12.03.02	knowledge of types of application equipment such as aerosol and pressure pot
12.03.03	ability to access hidden areas for application of anti-corrosive material
12.03.04	ability to apply material to repaired locations
12.03.05	ability to protect surrounding areas

Sub-task
12.04 **Performs final check.**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

Supporting Knowledge & Abilities

12.04.01	knowledge of new paint care
12.04.02	knowledge of vehicle's pre-existing condition
12.04.03	knowledge of industrial quality standards
12.04.04	ability to remove spray mask
12.04.05	ability to remove overspray
12.04.06	ability to clean vehicle such as vacuuming, wiping interior and cleaning glass
12.04.07	ability to check operation of electronic components and lights

APPENDICES

APPENDIX A TOOLS AND EQUIPMENT

Standard Tool Kit

adhesive remover (eraser)
air powered tools
air pressure gauge
blow gun
clip removal tool
decal removal tool
drill
dual action sander
file
grinder
hand cutting tools
hand tools
heat gun
plastic spreaders
putty board
putty knife
ratchet socket
reveal moulding tool
rubber squeegee
sanding blocks
sanding boards
scratch pad
screwdrivers
socket wrench
sockets
sponge blocks
spray bottles
stop watch
tape measure
tire chuck
trim removing tools
trouble light
tweezers
upholstery tools

Safety and First Aid Equipment

disposal containers
dust extraction equipment
dust mask
ear protectors
explosion proof room
explosion proof wiring
eye wash station
fire extinguishers
first aid kit
gloves (work & rubber)
goggles
invisible glove
paint suit
protective clothing
respirator (air purifying)
respirator (air supplied)
safety eye wear
safety footwear
shower
spill kits

Refinishing Equipment

air brush
anti-static devices
automatic gun washing system
blow gun
colour chips
colour corrective bulbs
computer and software
curing lamps
film thickness gauge (wet and dry)
gravel guard gun

Refinishing Equipment (continued)

ground cable
gun washer
heat lamps
liquid mask
measuring sticks
microfiche reader
mixing cups
mixing machine
mixing scales
mixing sticks
natural light gun
oilless compressor
paint shaker
paint strainers
pressure washers
psychrometer
schutz gun
solvent recycler
spectrophotometer
spray booth
spray gun (electrostatic)
spray gun (gravity feed)
spray gun (HVLP)
spray gun (LVLP)
spray gun (pressure pot system)
spray gun (suction feed)
spray out cards
thermometer
UV lamps
variant cards
venturi fan
viscosity cups

Detailing and Cleaning Equipment

abrasive pad
anti-corrosive applicator
buffer pad
buffer/polisher
clay blocks
cleaning brush
cleaning clothes
cleaning equipment
cleaning solutions
interior cleaner
magnifying glass
moulding cutter
polisher
razor blade
razor blade holder
run-nib file
spray bottle
stripe cutter
tack cloths
vacuum cleaner

Shop Equipment

air compressor
air dryer
air hoses
air makeup system
air transformer
axle stand
brooms
caulking gun (manual/air)
decal eraser
files
floor jack
floor squeegees
hangers
hoist
manometer
masking cart
media blasting equipment
moisture trap
moulding remover
parts and bumper stands
plastic rivet gun
pneumatic sanders

Shop Equipment (continued)

pressure washer
regulators
solvent recycler spreaders
stands
step ladders
telephone
two-way radio
windshield removing tools
wire brush

APPENDIX B GLOSSARY

abrasive	a substance used to wear away a surface by friction
adhesion	the force that makes two materials stick together. When paint bonds with paint, it is called intercoat adhesion; epoxies have great adhesion to most surfaces.
back mask	masking of an opening of vehicle from the inside
basecoat/clearcoat	a high-lustre, two-layer paint system, which, unlike conventional lacquer or enamel, has the pigment in the basecoat with a clearcoat as the finish coat to protect the basecoat and produce a deep high-lustre appearance and provide UV protection
blending	gradual transition from the applied coat to the original coat
chroma	the strength or intensity of a colour
colour	the visual appearance of a material: red, blue, green, and so on; colours are seen differently by different people.
compatibility	the ability of materials to be used together without separation or reaction
contaminants	foreign substances on the surface to be painted (or in the paint) that would adversely affect the finish
coverage	the area a given amount of paint will cover
cure	the process of drying or hardening of a paint film or to harden a coating film by applied heat or catalyst
degreaser	combination of solvents for the purpose of removing grease and oil from the surface in preparation for painting
dry spray	an imperfect coat, usually caused by spraying too far from the surface being painted or on a too hot surface
drying time	the expected time for a paint film to harden. Varying by product, temperature and atmospheric conditions, drying time is usually expressed as dust-free and completely dry, or dry for recoat
epoxy	a class of resins characterized by good chemical resistance; a film made from epoxy resins is extremely durable and solvent resistant; pure epoxies require strong solvents and a catalyst

filler	a heavy-bodied plastic material that cures very hard and is used to fill small dents in metal
film thickness	the thickness of a coating measured in mils
finish	the topcoat that protects the substrate, usually containing a pigment
fish-eyes	blemishes in the finish coat usually of a circular and opalescent character
flash-off time	the first stage of drying where some of the solvents evaporate
grit	a measure of the size of particles on sandpaper or discs
guide coat	applied coat of contrasting colour to identify surface imperfections when sanding
hue	the name of a colour; the property of a colour by which it can be distinguished; red, blue, yellow, etc.
lustre	the appearance of depth as obtained by multiple coats
masking	using tape and paper to protect an area that will not be painted
media blasting	removal of topcoat using various materials such as sand, soda and plastic beads
metal flake	most generally, aluminium flakes that have iridescent and light reflective properties
metamerism	a term used to describe a colour shift when viewed under different light sources
mottling	irregular grouping of metallic particles in a topcoat
orange peel	a film that has the physical appearance of an orange peel, caused by improper spray application
overspray	paint that falls on the area next to the one being painted
primer	an undercoat applied to bare metal to promote adhesion of the topcoat to substrate
primer surfacer	a high-solids primer that fills small imperfections in the substrate and usually must be sanded
putty	a material made for filling small holes or sand scratches

respirator	a device worn over the mouth and nose that delivers breathable air
runs	usually caused by improper consistency of paint or applying too heavily
sags	state of applied paint before running
sealer	a coating which improves adhesion and colour uniformity of the topcoat
solids	the pigment and non-volatile vehicle components of paint; material which remains on surface
solvent	the component of a solution which dissolves other components
specifications	written instructions on details of paint applications, types of products to be used, areas to be painted and painting procedure
spectrophotometer	an electronic device used for recording and measuring colour
spray gun	a tool powered by air pressure that atomizes liquids
substrate	the surface that is to be finished; it can be anything from an old finish or primer to an unpainted surface
tack cloth	a cheesecloth that has been treated to make it tacky, used to pick up dust and lint from the surface to be painted
three-stage (tri-colour)	paint application that consists of distinct paint layers that produces a pearlescent appearance: a basecoat, a tinted midcoat and clearcoat.
tint	to add colour to another colour or to white
topcoat	the last or final colour clearcoat
two-stage	consists of two distinct layers of paint: basecoat and clearcoat
undercoat	a first coat: primer, primer surfacers or sealer
value	the lightness/darkness of a colour
vehicle identification number (VIN)	the number assigned to each vehicle by its manufacturer, primarily for registration and identification purposes
viscosity	consistency or body of a liquid

viscosity cup	a device to measure the viscosity of a liquid by determining the time it takes to flow through the opening of the cup
volatile	capable of evaporating easily
water-borne paint	an OEM paint process in which a special de-ionized, purified water is substituted as the solvent carrier instead of enamel reducer

APPENDIX C ACRONYMS

HVLP	High Volume Low Pressure
LVLP	Low Volume Low Pressure
MSDS	Material Safety Data Sheet
OH&S	Occupational Health and Safety
OEM	Original Equipment Manufacturer
PPE	Personal Protective Equipment
RP	Reduced Pressure
UV	Ultraviolet
VIN	Vehicle Identification Number
VOC	Volatile Organic Compounds
WHMIS	Workplace Hazardous Materials Information System

APPENDIX D BLOCK AND TASK WEIGHTING

BLOCK A OCCUPATIONAL SKILLS

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	NV	5	15	26	20	25	15	11	10	20	20	NV	NV	17%

Task 1 Uses documentation.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	NV	25	25	31	20	25	35	25	10	30	40	NV	NV	27%

Task 2 Uses tools and equipment.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	NV	50	45	34	55	50	35	48	70	35	40	NV	NV	46%

Task 3 Organizes work.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	NV	25	30	35	25	25	30	27	20	35	20	NV	NV	27%

BLOCK B VEHICLE PREPARATION

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	NV	40	35	28	30	25	40	40	40	40	35	NV	NV	35%

Task 4 Performs initial preparation.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	NV	10	25	30	25	20	20	21	33	20	20	NV	NV	22%

Task 5 Prepares surface.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	NV	35	40	34	40	50	40	44	34	45	30	NV	NV	39%

Task 6 Applies repair materials.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	NV	55	35	36	35	30	40	35	33	35	50	NV	NV	39%

BLOCK C REFINISHING

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	NV	50	35	28	30	25	35	37	40	35	35	NV	NV	35%

Task 7 Prepares equipment.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	NV	15	15	22	10	20	15	13	10	10	20	NV	NV	15%

Task 8 Prepares refinishing materials.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	NV	35	30	28	40	25	35	33	40	45	20	NV	NV	33%

Task 9 Applies refinishing materials.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	NV	35	40	28	40	35	35	38	40	40	40	NV	NV	37%

Task 10 Maintains refinishing equipment.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	NV	15	15	22	10	20	15	16	10	5	20	NV	NV	15%

BLOCK D PRE-DELIVERY

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	NV	5	15	18	20	25	10	12	10	5	10	NV	NV	13%

Task 11 Carries out quality assurance check.

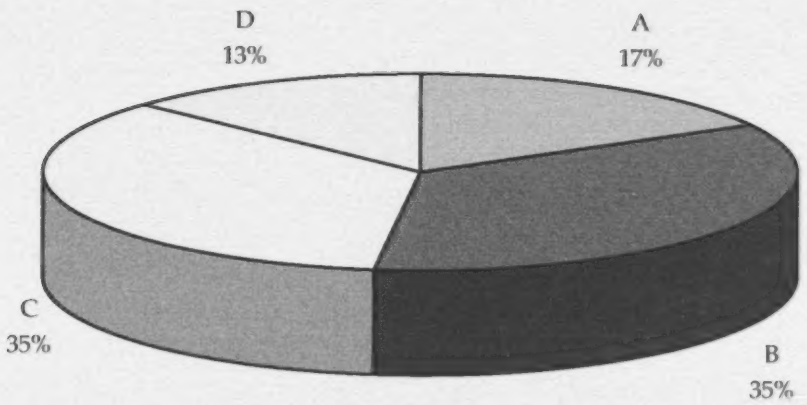
	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	NV	50	35	52	75	50	45	35	50	25	30	NV	NV	45%

Task 12 Performs detailing.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	NV	50	65	48	25	50	55	65	50	75	70	NV	NV	55%

APPENDIX E

PIE CHART*



TITLES OF BLOCKS

BLOCK A	Occupational Skills	BLOCK C	Refinishing
BLOCK B	Vehicle Preparation	BLOCK D	Pre-Delivery

*Average percentage of the total number of questions on an interprovincial examination, assigned to assess each block of the analysis, as derived from the collective input from workers within the occupation from all areas of Canada. Interprovincial examinations typically have from 100 to 150 multiple-choice questions.

APPENDIX F

TASK PROFILE CHART — Automotive Painter

	BLOCKS	TASKS	SUB-TASKS				
A	OCCUPATIONAL SKILLS	1. Uses documentation.	1.01 Interprets vehicle information.	1.02 Interprets technical manuals and bulletins.	1.03 Interprets safety and environmental regulations.	1.04 Contributes to development of repair estimate.	1.05 Interprets work orders.
		2. Uses tools and equipment.	2.01 Uses hand tools.	2.02 Uses power tools.	2.03 Uses computers.	2.04 Uses measuring equipment.	2.05 Uses personal protective equipment (PPE).
		3. Organizes work.	3.01 Organizes material.	3.02 Communicates with others.	3.03 Maintains safe work environment.	3.04 Performs inspections.	
B	VEHICLE PREPARATION	4. Performs initial preparation.	4.01 Cleans vehicle.	4.02 Removes trim and accessories.			
		5. Prepares surface.	5.01 Repairs imperfections.	5.02 Masks vehicle.	5.03 Strips surface.	5.04 Sands surface.	
		6. Applies repair materials.	6.01 Applies fillers.	6.02 Applies primer and primer surfacers.	6.03 Performs final sanding.	6.04 Applies chip guard.	
C	REFINISHING	7. Prepares equipment.	7.01 Performs spray gun setup.	7.02 Prepares spray booth.			
		8. Prepares refinishing materials.	8.01 Mixes paint.	8.02 Performs colour matching.			
		9. Applies refinishing materials.	9.01 Applies sealers.	9.02 Applies topcoat materials.			

BLOCKS	TASKS	SUB-TASKS			
	10. Maintains refinishing equipment.	10.01 Maintains spray booth.	10.02 Maintains spray equipment.		
D PRE-DELIVERY	11. Carries out quality assurance check.	11.01 Removes surface imperfections.	11.02 Removes masking materials.		
	12. Performs detailing.	12.01 Installs trim and accessories.	12.02 Applies decals and striping.	12.03 Applies anti-corrosive material.	12.04 Performs final check.